

REMARKS

This Amendment is in reply to the Office Action of August 13, 2008. The Office Action indicated that Claims 1-11 and 24-35 are pending and rejected. With this Amendment, Claims 1-11, 24, 29, 30 and 35 are amended. Claims 1-11, 24-35 are presented for reconsideration and allowance.

Claim Rejections under 35 USC 102

In the Office Action, Claims 1-5 were rejected under 35 USC 102(b) over Ura et al. WO 01/080331, using US 2003/0017383 as an equivalent English translation. The Examiner construed the limitation in Claim 1 to "controlling the outer surface temperature of the combined cover and electrical energy storage cell such that the combined cover and electrical energy storage cell comprise intrinsically safe equipment" as an intended use limitation and did not give it patentable weight.

With this Amendment, Claim 1 is amended to claim a temperature regulated, enclosed electrical energy storage cell. Claim 1 is amended to positively recite "an electrical energy storage cell" as an element of Claim 1. Claim 1 is amended to include a limitation to a second layer of thermally insulating material that is shaped to form an enclosure of an outer surface of the first layer and that extends beyond the outer surface to enclose the first layer ends. Claim 1 is amended to include a limitation that the temperature regulated, enclosed electrical energy storage cell comprises intrinsically safe equipment.

The limitation of Claim 1, as currently amended, that "the temperature regulated, enclosed electrical energy storage cell comprises intrinsically safe equipment" is not an intended use limitation. The temperature regulated, enclosed electrical energy storage cell is what is presently claimed in Claim 1. As pointed out in the attached non-patent literature document titled "Approval Standard, Intrinsically Safe Apparatus and Associated Apparatus for use in Class I, II, III, Division 1 Hazardous (Classified) Locations," the term "intrinsically safe" includes, in addition to temperature, specified clearance and creepage distances (page 13, table 6.1) and numerous other

construction requirements for intrinsic safety.

Ura et al. does not disclose a temperature regulated, enclosed electrical storage cell that comprises intrinsically safe equipment as presently claimed in amended Claim 1. Ura et al. does not disclose meeting the approval standard for intrinsically safe equipment in a temperature regulated, enclosed electrical energy storage cell as presently claimed in amended Claim 1. Ura et al. does not disclose specific creepage distances, which are part of the intrinsically safe equipment standard. Ura et al. does not disclose specific clearance distances which are part of the intrinsically safe equipment standard. Ura et al. does not disclose the numerous other requirements of the intrinsically safe equipment standard.

Ura et al. does not disclose a second layer of thermally insulating material that is shaped to form an enclosure of the outer surface of the first layer and that extends beyond the outer surface to enclose the first layer ends as presently claimed in Claim 1.

Claim 1 is therefore novel. Withdrawal of the rejection of Claims 1-5, and reconsideration and allowance of Claims 1-5 are therefore requested.

Claim Rejections under 35 USC 103

In the Office Action, Claims 6 and 7 were rejected under 35 USC 103(a) over Ura et al. in view of a Patent Abstract of Toyoda Publication No. JP 2001-243927.

As discussed above, Claim 1 is presently amended to claim a temperature regulated, enclosed electrical energy storage cell. Claim 1 is amended to positively recite an electrical energy storage cell. Claim 1 is amended to include a limitation that the temperature regulated, enclosed electrical energy storage cell comprises intrinsically safe equipment. Claim 1 is amended to include a limitation to a second layer of thermally insulating material that is shaped to form an enclosure of an outer surface of the first layer and that extends beyond the outer surface to enclose the first layer ends.

Ura et al. is discussed above.

Toyoda does not teach or suggest a second layer of thermally insulating material shaped to form an enclosure of an outer surface of the first layer and that extends beyond the outer

surface to enclose the first layer ends. In Toyoda, the electrical energy storage cell includes a "positive-electrode terminal" 1, and there is only a single layer (heat contraction material 8) on the electrical energy storage cell. Toyoda does not teach or suggest intrinsically safe equipment as presently claimed in Claim 1.

Neither Ura et al. nor Toyoda, taken singly or in combination, teach or suggest a temperature regulated, enclosed electrical energy storage cell that comprises intrinsically safe equipment as presently claimed in Claim 1.

Claims 6 and 7, which depend from Claim 1, include limitations that, when taken in combination with the limitations of Claim 1, are also believed to be non-obvious and patentable. Withdrawal of the rejections of Claims 6 and 7, and reconsideration and allowance of Claims 6 and 7 are therefore requested.

In the Office Action, Claim 8 was rejected under 35 USC 103(a) over Ura et al. in view of Koehler et al. EP 0177225.

As discussed above, Claim 1 is presently amended to claim a temperature regulated, enclosed electrical energy storage cell. Claim 1 is amended to positively recite an electrical energy storage cell. Claim 1 is amended to include a limitation that the temperature regulated, enclosed electrical energy storage cell comprises intrinsically safe equipment. Claim 1 is amended to include a limitation to a second layer of thermally insulating material shaped to form an enclosure of an outer surface of the first layer and that extends beyond the outer surface to enclose the first layer ends.

Neither Ura et al. nor Koehler et al., taken singly or in combination, teach or suggest a temperature regulated, enclosed electrical energy storage cell that comprises intrinsically safe equipment as presently claimed in Claim 1. Neither Ura et al. nor Koehler et al., teach or suggest a second layer of thermally insulating material shaped to form an enclosure of an outer surface of the first layer and that extends beyond the outer surface to enclose the first layer ends. Claim 1 is novel, nonobvious and patentable. Claim 8, which depend from Claim 1, includes limitations that, when taken in combination with the limitations of Claim 1, is also believed to be patentable. Withdrawal of the rejections of Claim 8, and reconsideration and allowance of Claim 8 are

therefore requested.

In the Office Action, Claims 9 and 10 were rejected under 35 USC 103(a) over Stafford et al. US 5,763,118 in view of Miller et al. US 5,204,194.

Claim 9 is includes limitations to the combination of the first and second layers and the protective device rendering the battery intrinsically safe. As discussed above in connection with Claim 1, apparatus that is intrinsically safe includes, in addition to temperature, specified clearance and creepage distances (page 13, table 6.1).

Neither Stafford et al. nor Miller et al, taken singly or in combination, teach or suggest a battery that is intrinsically safe as presently claimed in Claim 9. Neither Stafford et al. nor Miller et al. teach or suggest apparatus that is intrinsically safe. Neither Stafford et al. nor Miller et al. teach or suggest specified clearance and creepage distances (page 13, table 6.1). Claim 9 is therefore considered patentable. Claim 10, which depend from Claim 9, includes limitations that, when taken in combination with the limitations of Claim 9, is also believed to be patentable. Withdrawal of the rejections of Claims 9, 10 and reconsideration and allowance of Claims 9,10 are therefore requested.

In the Office Action, Claim 11 was rejected under 35 USC 103(a) over Stafford et al. in view of Miller et al. and further in view of Maggert et al. US 6,724,170.

As discussed above, Claim 9 includes limitations to a combination of the first and second layers and the protective device rendering the battery intrinsically safe.

Neither Stafford et al. nor Miller et al. nor Maggert et al., taken singly or in combination, teach or suggest a combination of the first and second layers and the protective device rendering the battery intrinsically safe as presently claimed in Claim 9. Claim 9 is considered patentable. Claim 11, which depend from Claim 9, includes limitations that, when taken in combination with the limitations of Claim 9, is also believed to be patentable. Withdrawal of the rejections of Claim 11, and reconsideration and allowance of Claim 11 are therefore requested.

Claims 24-27 and 29 were rejected under 35 USC 103(a) over Stafford et al. in view of Miller et al. and further in view of Pajakowski et al. U.S. Patent 6,718,425. With this

Amendment, Claim 24 is amended to include electrical interconnections that interconnect the plurality of electrical energy storage cells in a series circuit with the protective device to form an intrinsically safe battery.

Neither Stafford et al. nor Miller et al. nor Pajakowski et al., taken singly or in combination, teach or suggest electrical interconnections that interconnect the plurality of electrical energy storage cells in a series circuit with the protective device to form an intrinsically safe battery as presently claimed in amended Claim 24. Claim 24 is thus considered non-obvious and patentable. Withdrawal of the rejection of Claim 24, and reconsideration and allowance of Claim 24 are therefore requested. Dependent Claims 25-27 and 29 include additional limitations that, when taken in combination with the limitations of Claim 24 are also patentable. Withdrawal of the rejections of Claims 24-27 and 29, and reconsideration and allowance of Claims 24-27 and 29 are therefore requested.

Claim 28 was rejected under 35 USC 103 over Stafford et al. in view of Miller et al. and Pajakowski et al. and further in view of Iwasaki et al.

Neither Stafford et al. nor Miller et al. nor Pajakowski et al. nor Iwasaki et al., taken singly or in combination, teach or suggest electrical interconnections that interconnect the plurality of electrical energy storage cells in a series circuit with the protective device to form an intrinsically safe battery as presently claimed in amended Claim 24. Claim 24 is thus considered non-obvious and patentable. Dependent Claim 28 includes additional limitations that, when taken in combination with the limitations of Claim 24 are also patentable. Withdrawal of the rejection of Claims 28, and reconsideration and allowance of Claims 28 are therefore requested.

Claims 30-33 and 35 were rejected under 35 USC 103(a) over Stafford et al. in view of Miller et al. and further in view of Kosh US 2003/0046974.

With this Amendment, Claim 30 is amended to include electrical interconnections that interconnect the plurality of electrical energy storage cells in a series circuit with the protective device to form an intrinsically safe battery.

Stafford et al. and Miller et al. are discussed above. Kosh also does not teach or suggest electrical interconnections that interconnect the plurality of electrical energy storage cells

in a series circuit with the protective device to form an intrinsically safe battery as presently claimed in Claim 30. Neither Stafford et al. nor Miller et al. nor Kosh teach or suggest electrical interconnections that interconnect the plurality of electrical energy storage cells in a series circuit with the protective device to form an intrinsically safe battery as presently claimed in Claim 30. Claim 30 is thus believed to be non-obvious and patentable. Withdrawal of the rejection of Claim 30, and reconsideration and allowance of Claim 30 are therefore requested. Dependent Claims 31-33 and 35 include additional limitations that, when taken in combination with the limitations of Claim 30 are also believed to be patentable. Withdrawal of the rejections of Claims 31-33 and 35, and reconsideration and allowance of Claims 31-33 and 35 are therefore requested.

Claims 34 was rejected under 35 USC 103(a) over Stafford et al. in view of Miller et al., Kosh, and further in view of Iwasaki et al. US Patent 6,325,611. Claim 34 depends from Claim 30. As discussed above, Claim 30 is patentable.

Stafford et al., Miller et al. and Kosh are discussed above. Iwasaki et al. also does not teach or suggest electrical interconnections that interconnect the plurality of electrical energy storage cells in a series circuit with the protective device to form an intrinsically safe battery.

Neither Stafford et al. nor Miller et al. nor Kosh nor Iwasaki et al. teach or suggest electrical interconnections that interconnect the plurality of electrical energy storage cells in a series circuit with the protective device to form an intrinsically safe battery as presently claimed in Claim 34. Claim 34 is thus believed to be non-obvious and patentable. Withdrawal of the rejection of Claim 30, and reconsideration and allowance of Claim 30 are therefore requested.

Concluding Remarks

The Examiner has cited art that does not disclose, teach or suggest meeting all the requirements of intrinsic safety. For example, the cited art does not disclose clearance and creepage distances in equipment. There are numerous other requirement for intrinsic safety, all of which must be met in order for an apparatus to be intrinsically safe. A person of ordinary skill, seeking to design intrinsically safe cell, battery, calibrator or data acquisition apparatus, would not be attracted to look at apparatus that did not complete the intrinsic safety requirements. A person of ordinary

skill would search apparatus that meets intrinsic safety requirement, primarily in the industrial process control industry.

The Examiner has cited art that does not disclose, teach or suggest a second layer of thermally insulating material that is shaped to form an enclosure of an outer surface of the first layer and that extends beyond the outer surface to enclose the first layer ends.

The application appears to be in condition for allowance, and favorable action is requested. The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 

David C. Bohn, Reg. No. 32, 015
900 Second Avenue South, Suite 1400
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

Attachment: IDS